HIGH-SPEED
BRAIDING
MACHINES.

INSTRUCTIONS
FOR ERECTING.
NOTES ON RUNNING.
AND LIST OF
SPARE PARTS
WITH
ILLUSTRATIONS.

STANDARD MACHINE WORKS,
LIMITED.
THE WELLS ROAD,
NOTTINGHAM, ENG.

Telephone : 2012. Telegrams : "CRUSOE."

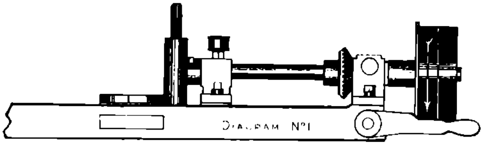
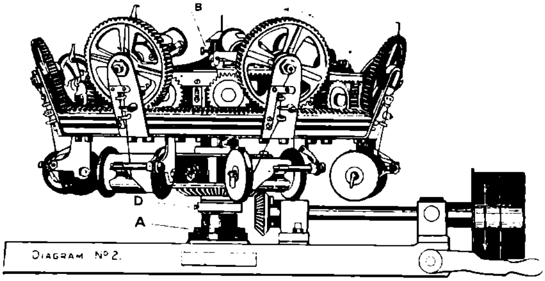


DIAGRAM Nº 1



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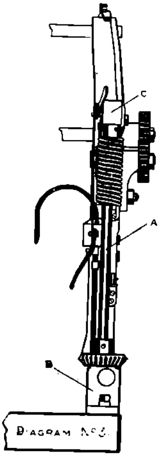

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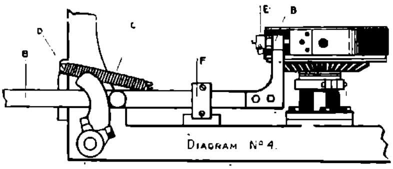

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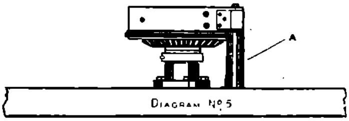


DIAGRAM Nº 5

INSTRUCTIONS
FOR ERECTING AND RUNNING.

Remove the Bed-Plate of the machine from the flat case, and place it on the stand with the pulleys on the right hand side, and the name plate to the front as per Drawing No. 1.

The central part of the machine is sent out fitted up complete in the square case. Place it on the Bed-Plate, with the number of the machine in front, and secure it at "A" (Drawing No. 2) with the screws sent for the purpose.

Fix the right hand Standard. At the same time put into position the Vertical Shaft "A" (Drawing No. 3), with the bevel wheel at the bottom and the worm wheel at the top. The foot of this shaft revolves in the footstep forming part of the bearing "B" of the Driving Shaft. The top part revolves in the bearing "C" fixed on the Standard.

Then fit piece "B" (Drawing No. 4) after having removed the plate "F." The spiral spring must be attached at one end to the Standard "D," and at the other to the piece "B," as shown in drawing.

Place the flexible band round the Brake Drum. One end of the band is fixed to the Vertical Stud "A" (Drawing No. 5), and the other end to the Lever "B" (Drawing No. 4). The Nut and Check Nut "E" must both be on the outside of the lever as shown in drawing. These nuts are intended to keep the brake in position after setting. The tighter the brake is screwed up the quicker the machine stops, but care must be taken that when the brake is not operating the flexible band does not touch the drum. The brake must also be set so as to act at the same time as the strap fork.

After having finished the fitting, all screws and nuts must be gone over, as vibration would loosen all those not screwed up tight.

The hole in the centre guide must be carefully centred.

The tension of the yarn is obtained by means of a spring with a plate, which presses on the the bobbin, and is set by means of a small ratchet. It is very important to set the springs so as to give equal tension to all the bobbins. Once set, there is rarely any need to touch them, unless quite a different class of work is to be done. If the braiding has a tendency to assume a square section, the tension on the outer bobbins must be increased, or the tension on the inner bobbins reduced. For very heavy, or very light work, special springs can be supplied.

The wear in the centre bearing is taken up by means of the piece "D" (Drawing No. 2). This is correctly set when the machine is delivered, and will only require to be adjusted at long intervals, say once a year. The outside wheels must not gear too deep, but must have a little play in the inside rack.

LUBRICATION.

The machine is provided with every facility for oiling. The centre bearing on which the machine revolves is oiled by a lubricator in the centre of the machine (see "B" Drawing No. 2). The groove in which the bobbins run must be oiled from time to time, as also the axles of the fibre wheels. The Worm and Wheel must be frequently greased with a slightly consistent lubricant such as vaseline. The Ball Bearings of the outer wheels must be greased from time to time with a little vaseline. The Loose Pulley is fitted with a screw lubricator containing a good supply of lubricant.

Good Lubrication increases the life of the Machine and reduces the power consumed.

SPEED OF DRIVING PULLEYS.

8	spindle machines	200 to 300	Revs. per minute.
12	„ „	400 „ 500	„ „
16	„ „	300 „ 400	„ „
18, 24, & 30	„	250 „ 300	„ „

The ratio of the driving bevels is as follows:—

For 8, 12, 16 and 18 spindle machines 1 to 2.
„ 24 and 30 „ „ 1 to 3.

Greater speeds may be run, but the quality of the work suffers. At the speeds stated the wear is quite normal, the machine being constructed throughout with first-class materials suitable for the speeds recommended.

The larger models are built with self-contained stands and do not need a bench ; it will be obvious where the above instructions do not apply.

Notes on the

High-Speed Braiding Machine

and its use for

Tubular Banding and similar Cords.

The speed of the STANDARD MODEL of 16 spindles may be anything up to 200 revolutions per minute. We recommend a speed of 160 revolutions per minute, for best results with minimum wear and tear. As the driving pulley is in the ratio of 2 to 1 compared with the machine as a whole, this gives a speed on driving pulley of 320 revolutions per minute.

Thickness of banding is determined by the number of ends to a bobbin ; the counts chiefly used are 16's and 20's single, wound two or more ends to a bobbin. Doubled and other yarns are used for special purposes (*e.g.* glacé lines, wire covering, etc.)

The hardness and softness of the banding (apart from the nature of the yarn) varies according to the number of plaits or "picks" to a given length, and according to the tension placed on the feeding bobbins.

The tension on the feeding bobbins is regulated by the small ratchet attached to the tension spiral. These should of course be made as equal as possible, touch being a sufficient guide without any instrument.

The number of plaits to the inch is regulated by the change wheels on the right hand standard ; equal wheels give 16 plaits to the inch and half an inch of banding per revolution. This, however, is much closer than necessary for an average banding, and a larger wheel below gives a bigger output and a softer banding.

The centre guide through which the threads pass at the braiding point should be only sufficiently easy to allow of the passage of knots or loose places ; the guide should be exactly over the centre of the hole in the main pillar of machine.

The arm carrying the guide automatically centres itself from back to front ; its position from side to side is fixed when the machine is erected, and is then secured by locking the nuts on the upper shaft.

Provision is also made for regulating the centre guide upwards and downwards ; this is not so important as the previous adjustment, but the tension should be the same on the outer threads whether the arm on outer revolving wheel is up or down.

No special winding is required for the machine ; an ordinary slow traverse winder serves the purpose admirably, or paper tubes filled on a drum frame or universal winder may be used.

The superiority of the HIGH-SPEED BRAIDING MACHINE for the production of banding lies mainly in the following points :—

1. Larger production per operator and per £ of capital employed.

2. Fewer pulleys, less shafting, less space, less power, fewer bobbins and receiving drums for a given output.

3. When properly made the banding will last longer *in actual use ;* in the process of braiding the natural surface of the yarn is not rubbed as the braiding takes place very quickly after the threads are once crossed. In the old style machine a considerable rubbing action takes place, making the banding feel softer to the touch because of the rubbing of the surface fibres, but lessening the life of the banding in actual use.

4. Less wear and tear for a given output ; it must be borne in mind that the production is many times greater than in the old style machines. Wearing parts are detachable, interchangeable, easily replaced, and low in cost.

When perfectly satisfactory banding is not obtained attention should be paid to the following points :—

See that all bobbins are free on spindles, and that none of the spindles or outer wheel brackets have been bent in transit or erecting.

Test bobbin tensions to see that these are fairly even ; this is done by the finger quite easily ; if the cord has a tendency to squareness, either the upper or lower range of bobbins are carrying too much tension. Excessive snarling or twisting in the finished cord is due to the same cause.

See that the change wheels are adjusted to give a sufficient take-off for the amount of yarn used ; if too many plaits are put in the work it is difficult to make good banding, as there is a limit to what may be done in this direction.

In case of difficulty do not blame the machine ; it has made perfect work before being passed out—a length being attached to each machine despatched and a duplicate kept at the works. Operators of no special skill or intelligence are using these machines in large numbers.

We are always pleased to advise or give any possible information, or to help in the production of any special class of work.

SPARE PARTS LIST.

When ordering : quote Serial Number of Machine, which is stamped at foot of central pillar and on name plate.

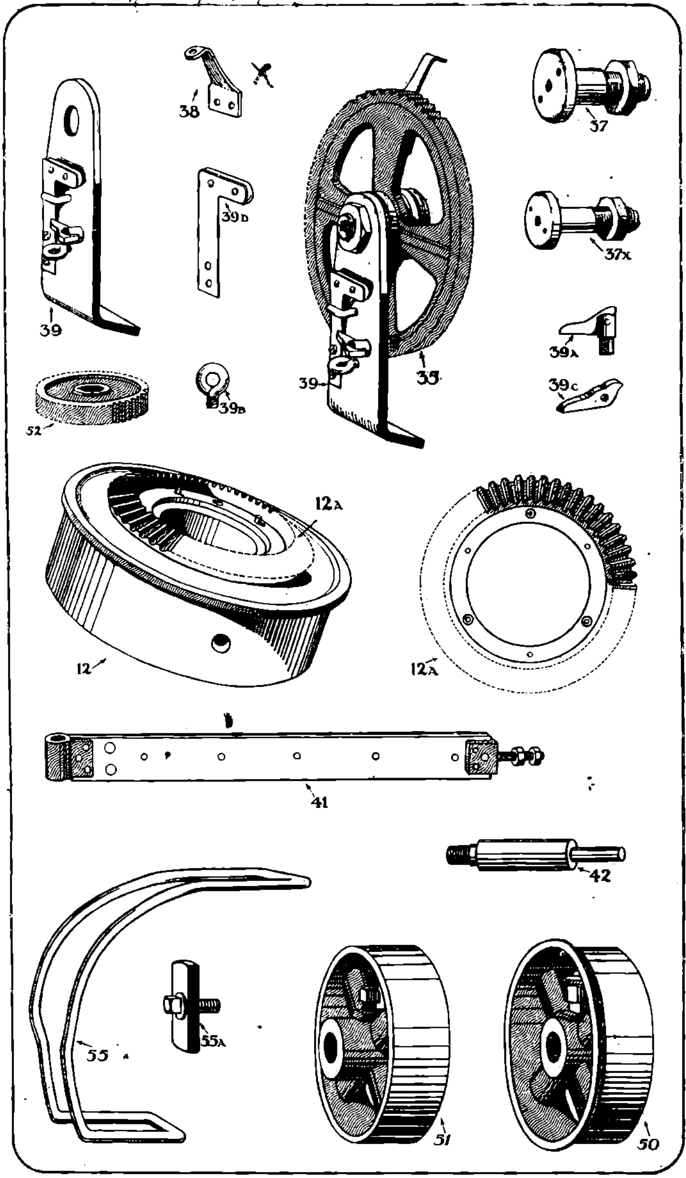
35-39. Outer Wheel, Bracket and Stud complete.

35	Outer Wheel with Axle and Thread Guide
37	Hardened Axle for Outer Wheel, with Nut
37X	,, ,, ,, ,, ,, without Ball races
33	Thread Guide Arm
39	Bracket for Outer Wheel, complete
39	A Trip and Stud
	B Circular Thread Guide
	C Trip only
	D Take up Spring

12. Brake Drum.

12A	Large Bevel Wheel for Brake Drum
41	Brake Band complete
42	Pillar for Brake Band
50	Loose Pulley. with Lubricator
51	Fast Pulley
52	Change Wheels
55	Forks, under and over Drive combined
55A	Clamp for Fork

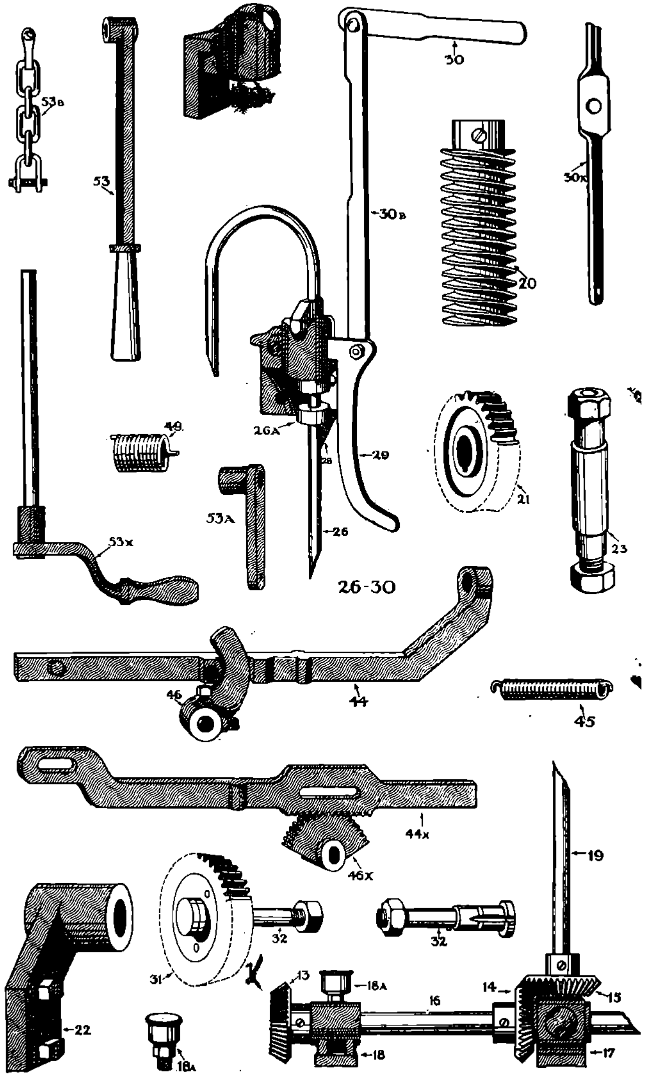
4.1.1.6.2.



26-30. Knock-Off arrangement, complete.

26	Knock-Off Rod, Steel Tip
26A	Collar for Knock-Off Rod
27	Bracket for ,, ,,
28	Spiral Spring
29	Knock-Off Lever for Outer Trips
30	,, ,, ,, Hand Stop
30X	,, ,, ,, ,, ,, old type
30B	Connecting Rod

53	Starting Handle
53A	Arm for Handle Shaft
53B	Chain for 53
53X	Starting Handle and Shaft, old type
49	Spiral Spring on Handle Shaft
20	Worm
21	Worm Wheel
22	Bracket on right-hand Standard
23	Axle for Worm Wheel and lower change Wheel
31	Inner Wheel, fibre
32	Axle for Inner Wheel with Nut
44	Belt Shifter Bar, Steel
44X	Slotted Bar, old type
46	Throw-out Cam on Handle Shaft, engaging in 44.
46X	Quadrant Rack on Handle Shaft, old type
45	Pull Spring
13	Bevel Wheel on Driving Shaft engaging in 12A
14	,, ,, ,, ,, ,, ,, ,, 15
15	,, ,, ,, Worm Shaft ,, ,, 14
16	Driving Shaft
17	Outer Shaft Block
18	Inner Shaft Block
18A	Lubricator on 18
19	Worm Shaft


30X
26-30
53X
44X
46X

40. Outer Bobbin Carrier, complete.

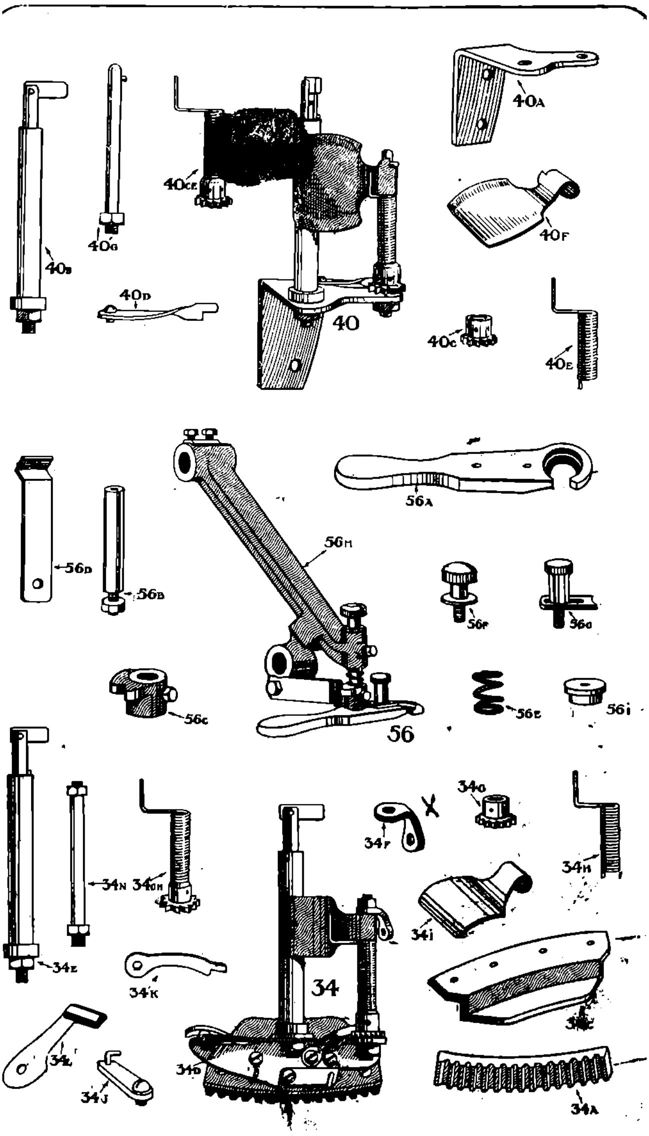
A	Bracket	
B	Spindle and Tube	
C	Ratchet	
D	Pawl	
E	Tension Spiral	
F	Tension Flap.	
G	Pin to carry Tension Spiral, with Nut	[illegible]
CE	Ratchet and Spiral, soldered	

56. Centre Guide, complete.

A	Die Holder
B	Spindle for Holder
C	Cam
D	Set Spring
E	Compression Spring
F	Regulating Screw
G	Die Retaining Piece and Screw
H	Arm Casting only
I	Die

34. Inner Bobbin Carrier, complete.

A	Rack	
C	Slide	
D	Spindle Plate	[illegible]
E	Spindle and Tube	
F	Thread Guide	
G	Ratchet	[illegible]
H	Spiral Spring	
I	Tension Flap	
J	Trip and Screw	
K	Ratchet Stop Spring	
L	Take up Spring	
GH	Ratchet and Spiral, soldered	
N	Pin for Thread Guide and Tension Flap	[illegible]


40B
40G
40CE
40A
40F
40D
40
40C
40E
56A
56H
56D
56B
56F
56G
56C
56
56E
56i
34G
34F
34H
34N
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34J
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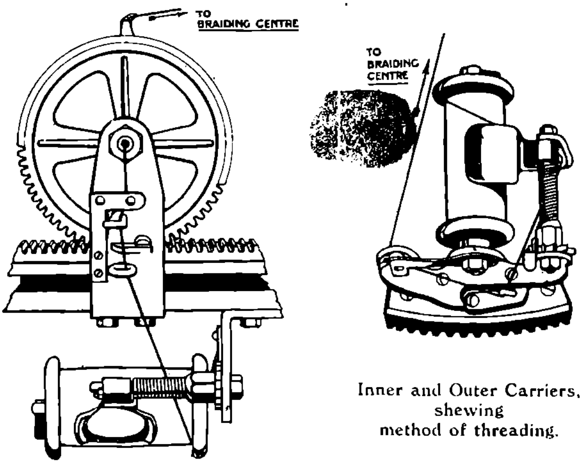
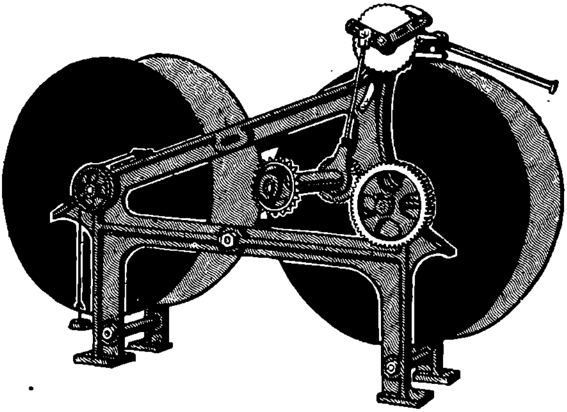


Inner and Outer Carriers,
shewing
method of threading.



Stand for Feed and Take-off Drums, with Adjustable Automatic Traverse.

(Full particulars on application.)